A FASTER, EASIER WAY TO MODERNIZE OUTDATED CODE

Is outdated code or tech stack putting your organization’s mission at risk? We can help you modernize legacy code for improved performance and security at a fraction of the cost of traditional refactoring methods.

- Dramatically reduce costs and timelines for code modernization
- Improve code efficiency, reliability and security
- Eliminate outdated and non-supported code without losing functionality

Leveraging AI for Fast, Scalable Code Refactoring

Traditional code modernization relies on human coders to rewrite legacy or other code into newer languages. This process is time consuming, expensive, and requires coders with extensive knowledge of both legacy and modern languages.

NCI leverages artificial intelligence (AI) to rewrite legacy or other code with minimal human intervention, vastly reducing costs and time lines for code refactoring. We paired our AI engine, NCI Shai™ (Scaling Humans with Artificial Intelligence), with Holonic Technologies’ CodeIntent™ semantic learning platform to automate the code refactoring process. Using these tools, NCI engineers can correct, modernize and optimize projects in any programming language, running on any stack or chipset.

Using Shai, we can:
- Securely repair, refactor, and regenerate any existing software into any desired programming language, architecture, or platform.
- Reduce code complexity and bloat and optimize code for better performance and eliminate vendor lock-in.
- Identify and correct security issues, interoperability issues and other problems with legacy or other code.
- Add new functionality to meet identified user needs.
- Continuously monitor and update new code as it is generated, eliminating “code freeze.”
Code Refactoring with Shai®
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Using Syntax and Intent for Improved Accuracy and Performance
Shai® and CodeIntent™ work alongside human software experts to analyze legacy code semantically. This allows the AI to accurately determine the intent of the legacy or other code, resulting in improved accuracy and performance compared to other automated code regeneration systems.

Here’s how refactoring works:

1. The NCI team uses Agile development methods in combination with AI for faster deployment.
2. Black-box methods are used for automated semantic analysis.
3. The AI translates legacy code into the new language using both syntax and intent to deliver clean, high quality code with a consistent “style” across the entire system.
4. The program produces full documentation of all newly AI refactored code.
5. Users and testers can optimize the display, format or capabilities of the code automatically by “teaching” the AI to perform the task.
6. New code is modernized by teaching the AI as it is developed, enabling programmers to continue developing on legacy systems while existing code is updated.
7. Continuous post-deployment monitoring enables automated removal of dead code and redundant files.

NCI Shai® and CodeIntent™ Working Together

Requirements Assessment
Receive Source Code
Assess Source Code
Decompose Source Code
Customize for Target
Recompose into Target
Train AI on Language, Platform, Framework, or Chipset
Parse Source Code
Agile AI Process
Provide Target Code

Ready to modernize your legacy code? Contact us to get started with NCI Shai Code Refactoring at www.nciinc.com or email contactnci@nciinc.com.

About NCI
NCI is a leading provider of enterprise solutions and services to U.S. defense, intelligence, health and civilian government agencies. NCI’s AI solution, Shai®, scales humans with artificial intelligence by empowering the workforce to meet their mission by using best in class AI solutions coupled with our exceptional service offerings. Coupled with a refined focus on strategic partnerships, NCI is committed to bringing commercial innovation to missions of national importance. NCI is a mid-tier systems integrator headquartered in Reston, VA, and operates at locations across the globe. For more information, visit www.nciinc.com or email contactnci@nciinc.com.